

Course

FSI - Functional Safety

Version: 1 | Last Change: 16.09.2019 09:58 | Draft: 0 | Status: vom verantwortlichen Dozent freigegeben

^ General information

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| Long name | Functional Safety |
| Approving CModule | <u>FSI_BaET</u> |
| Responsible | Prof. Dr. Jens Onno Krah Professor Fakultät IME |
| Level | Bachelor |
| Semester in the year | winter semester |
| Duration | Semester |
| Hours in self-study | 60 |
| ECTS | 5 |
| Professors | Prof. Dr. Jens Onno Krah Professor Fakultät IME |
| Requirements | MA1, TI1 |
| Language | German |
| Separate final exam | Yes |

Final exam

Details

Written module examination - similar to the exercises

Minimum standard

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Exam Type

Written module examination - similar to the exercises

^ Lecture / Exercises

Learning goals

Skills

Process safety, background and regulations
Characteristics and evaluation of the Safety Integrity Level (SIL) of safety equipment
Similarities and differences to the Performance Levels
Design and calculation of redundant circuits
Reliability and reliability parameters
Terms and characteristics
Requirements for fault disclosure
Risk and hazard analysis
Calculation of safety parameters
Reliability models for hardware and software

Expenditure classroom teaching

| Type | Attendance (h/Wk.) |
|---------------------------|--------------------|
| Lecture | 2 |
| Exercises (whole course) | 2 |
| Exercises (shared course) | 0 |
| Tutorial (voluntary) | 0 |

Separate exam

Exam Type

solving exercises within limited functional / methodical scope

Details

Presence exercise and self-learning tasks

Minimum standard

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^ Practical training

Learning goals

Skills

Programming of a safety controller
Connection of fail-safe process peripherals
Use of the SISTEMA software
Design and validation of safety controllers

Expenditure classroom teaching

| Type | Attendance (h/Wk.) |
|----------------------|--------------------|
| Practical training | 1 |
| Tutorial (voluntary) | 0 |

Separate exam

Exam Type

working on projects assignment with your team e.g. in a lab)

Details

Validation of the safety circuit with project report

Minimum standard

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